

RECEIVED
CENTRAL FAX CENTER
APR 23 2009

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently amended) A method for repairing an intervertebral disc of a patient using a cultured connective tissue construct, comprising:

- (a) forming at least one opening in the annulus fibrosis of the intervertebral disc;
- (b) removing at least a portion of the nucleus pulposus through the opening in the annulus fibrosis;
- (c) inserting at least a one or more first cultured connective tissue constructs ~~construct~~ into the opening of the annulus fibrosis; and
- (d) subsequently grafting a second an additional cultured connective tissue construct to close the opening with the one or more cultured connective tissue constructs in the annulus fibrosis, wherein the cultured connective tissue constructs comprise:

an extracellular matrix layer; and

cultured fibroblast cells that synthesize and assemble the layer of extracellular matrix in the absence of exogenous matrix components or synthetic members.

2. (Cancelled).

3. (Previously Presented) The method of claim 1, wherein the extracellular matrix layer further comprises collagen.

4-6. (Cancelled).

7. (Currently amended) The method of claim 1, wherein the one or more cultured connective tissue constructs are construct is grafted into the opening in the annulus fibrosis.

8. (Previously Presented) The method of claim 1, wherein the fibroblast cells are

cultured in a chemically defined medium.

9. (Currently amended) The method of claim 1, wherein the connective tissue ~~construct~~ constructs further comprises decorin and glycosaminoglycan.

10. (Currently Amended) A method for repairing an intervertebral disc of a patient using a cultured connective tissue construct, comprising:

- (a) forming at least one opening in the annulus fibrosis of the intervertebral disc;
- (b) removing at least a portion of the nucleus pulposus through the opening in the annulus fibrosis;
- (c) inserting ~~at least a first one or more~~ cultured connective tissue ~~construct~~ constructs into the opening of the annulus fibrosis; and
- (d) ~~subsequently grafting at least a second~~ an additional cultured connective tissue construct to tissue surrounding the one or more cultured connective tissue constructs and the opening, the ~~additional second cultured~~ additional cultured connective tissue construct closes the opening in the annulus fibrosis, wherein the cultured connective tissue constructs comprise:

an extracellular matrix layer; and

fibroblast cells that are cultured in a chemically defined medium in the absence of exogenous matrix components or synthetic members.

11. (Previously Presented) The method of claim 10, wherein the cultured fibroblast cells synthesize and assemble the layer of extracellular matrix in the absence of exogenous matrix components or synthetic members.

12. (Previously Presented) The method of claim 10, wherein the cultured connective tissue construct further comprises decorin and glycosaminoglycan.

13. (Currently Amended) A method for repairing an intervertebral disc of a patient using a cultured connective tissue construct, comprising:

- (a) preparing a bioremodelable cultured connective tissue construct that comprises an extracellular matrix layer and cultured fibroblast cells by the method comprising:
 - a. seeding and culturing fibroblast cells to synthesize an extracellular matrix on a cell culture surface in a medium in the absence of exogenous tissue matrix components or synthetic members;

- b. inducing the cells to upregulate the synthesis and secretion of extracellular matrix; and
 - c. culturing the cells on the cell culture surface to produce a layer of extracellular matrix of at least about 30 microns thick comprising extracellular matrix and fibroblast cells;
- (b) forming at least one opening in the annulus fibrosis of the intervertebral disc;
- (c) removing at least a portion of the nucleus pulposus through the opening in the annulus fibrosis;
- (d) inserting at least a first cultured connective tissue construct into the opening of the annulus fibrosis; and
- (e) subsequently suturing at least a second cultured connective tissue construct to tissue surrounding the at least first cultured connective tissue constructs and the opening, the additional second cultured connective tissue construct closes the opening in the annulus fibrosis, wherein the cultured connective tissue constructs comprise:
an extracellular matrix layer; and
fibroblast cells that are cultured in a chemically defined medium in the absence of exogenous matrix components or synthetic members.
14. (Previously Presented) The method of claim 13, wherein the medium is a chemically defined medium.
15. (Previously Presented) The method of claim 13, wherein the cultured connective tissue construct comprises decorin and glycosaminoglycan.
16. (Previously Presented) The method of claim 13, wherein inducing the cells to upregulate the synthesis and secretion of extracellular matrix comprises changing the medium to matrix production medium.
17. (Previously Presented) The method of claim 13, wherein the cells are seeded directly in matrix production medium that induces the cells to upregulate the synthesis and secretion of extracellular matrix.